5. ECONOMIC STATUS OF HMS FISHERIES

Development of conservation and management measures for Atlantic HMS fisheries is facilitated when there is an economic baseline against which the action or fishery may be evaluated. In this analysis, NMFS used the past ten years of data to facilitate the analysis of trends. It also should be noted that all dollar figures are reported in nominal dollars (i.e., current dollars). If analysis of real dollar (i.e., constant dollar) trends controlled for inflation is desired, price indexes for 2007 to 2014 are provided in Table 5.1. To determine the real price in base year dollars, divide the base year price index by the current year price index, and then multiply the result by the price that is being adjusted for inflation.

Table 5.1 Inflation Price Indexes (2007-2014)

Year	CPI-U	GDP Deflator	PPI Unprocessed Finfish
2007	207.3	97.3	318.1
2008	215.3	99.2	301.6
2009	214.5	100.0	306.9
2010	218.1	101.2	381.5
2011	224.9	103.3	388.1
2012	229.6	105.2	367.4
2013	233.0	106.7	438.2
2014	236.7	108.7	525.6

Note: The CPI-U is the standard Consumer Price Index for all urban consumers (1982-1984=100) produced by U.S. Department of Labor Bureau of Labor Statistics. The source of the Producer Price Index (PPI) for unprocessed finfish (1982=100) is also the Bureau of Labor Statistics. The Gross Domestic Product (GDP) Implicit Price Deflator (2009=100) is produced by the U.S. Department of Commerce Bureau of Economic Analysis.

5.1 Commercial Fisheries

All of the information and data presented in this section were obtained from NMFS 2015. In 2014, 9.5 billion pounds valued at $5.4 billion were landed for all fish species by U.S. fisherman at U.S. ports. In 2013, 9.9 billion pounds valued at $5.5 billion were landed for all fish species by U.S. fisherman at U.S. ports. The overall value of landings between 2013 and 2014 decreased by 0.8 percent. The total value of commercial HMS landings in 2014 was $38.6 million (Table 5.3).

The estimated value of the 2014 domestic production of all fishery products was $10.1 billion, down $2.0 billion (16%) from 2013. The total import value of fishery products was $35.9 billion in 2014. This is an increase of $2.6 billion from 2013. The total export value of fishery products was $30.0 billion in 2014. This is an increase of $853 million from 2013.

5.1.1 Ex-Vessel Prices

The average ex-vessel prices per pound dressed weight (dw) for 2007 to 2014 by species and area are summarized in Table 5.2. Prices are reported in nominal dollars. The ex-vessel price depends on a number of factors including the quality of the fish (e.g., freshness, fat content, method of storage), the weight of the fish, the supply of fish, and consumer demand.

Average ex-vessel prices for bluefin tuna have declined 8.6 percent since 2013. The ex-vessel prices for bluefin tuna can be influenced by many factors, including market supply and the Japanese Yen/U.S. Dollar (¥/$) exchange rate. Figure 5.1 shows the average ¥/$ exchange rate, plotted with average ex-vessel bluefin tuna prices, from 1971 to 2014.

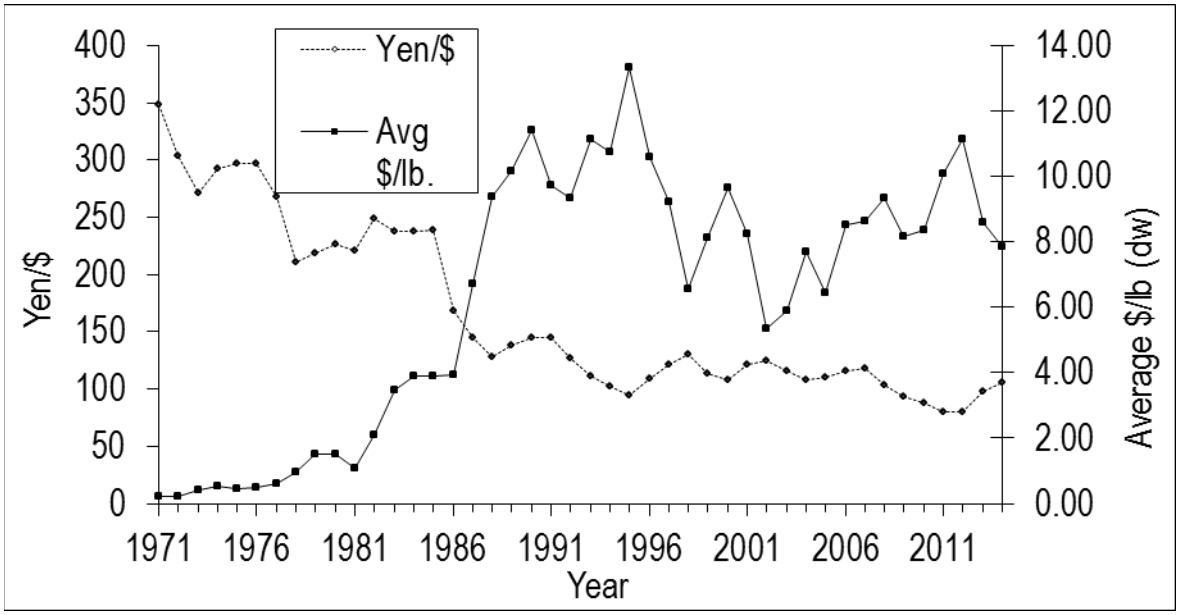

Figure 5.1 Average Annual Yen/$ Exchange Rate and Average U.S. Bluefin Tuna Ex-vessel $/lb (dw) for All Gears (1971-2014)

Source: Federal Reserve Bank (research.stlouisfed.org) and NMFS Northeast HMS Branch.

Table 5.2 Average Ex-vessel Prices per Pound for Atlantic HMS, by Area (2007-2014)

Species	Area	2007	2008	2009	2010	2011	2012	2013	2014
Bigeye tuna	Gulf of Mexico	$5.66	$6.12	$5.80	$5.79	$5.64	$6.19	$3.18	$3.54
	S. Atlantic	4.34	4.34	4.11	4.03	4.73	4.75	5.14	5.33
	Mid-Atlantic	5.48	5.70	5.42	5.86	6.38	6.90	6.35	6.72
	N. Atlantic	5.31	5.60	5.18	4.79	5.39	5.67	5.49	5.00
Bluefin tuna	Gulf of Mexico	5.63	4.51	4.65	5.42	6.38	7.16	6.72	6.49
	S. Atlantic	11.16	13.29	14.43	8.75	7.34	8.20	7.52	8.06
	Mid-Atlantic	6.95	7.94	10.10	8.94	10.64	10.95	9.02	7.66
	N. Atlantic	8.31	8.31	7.06	8.38	10.21	11.57	8.60	7.87
Yellowfin tuna	Gulf of Mexico	3.02	3.51	3.04	3.72	3.65	3.51	3.65	3.86
	S. Atlantic	2.69	2.99	2.90	3.53	3.93	4.63	3.64	3.68
	Mid-Atlantic	2.99	3.30	2.50	3.43	3.45	4.46	4.72	4.51
	N. Atlantic	3.17	3.82	2.86	2.80	3.39	4.22	3.89	3.61
Albacore tuna	Gulf of Mexico	0.53	0.49	0.55	1.40	1.09	0.68	0.77	0.77
	S. Atlantic	1.24	1.21	1.29	1.36	1.42	1.64	2.06	1.89
	Mid-Atlantic	0.86	0.97	1.10	1.30	1.19	1.25	1.41	1.26
	N. Atlantic	1.37	2.00	1.26	1.56	1.55	1.34	1.80	1.13
Skipjack tuna	Gulf of Mexico	-	-	0.50	-	0.90	0.75	-	-
	S. Atlantic	0.73	0.95	0.95	1.13	1.25	1.10	0.80	0.77
	Mid-Atlantic	2.22	4.50	-	-	0.60	1.06	0.88	1.02
	N. Atlantic	-	-	-	-	-	-	0.93	-
Swordfish	Gulf of Mexico	3.07	2.93	2.69	3.53	4.15	3.42	3.46	3.39
	S. Atlantic	4.24	4.11	4.12	4.63	4.84	4.97	4.99	4.86
	Mid-Atlantic	4.07	3.50	3.40	4.43	4.44	4.51	4.45	4.64
	N. Atlantic	4.11	4.20	3.49	4.61	4.22	4.49	4.61	4.31
Large coastal sharks	Gulf of Mexico	0.42	0.67	0.52	0.48	0.38	0.40	0.46	0.51
	S. Atlantic	0.54	0.72	0.55	0.65	0.61	0.75	0.77	0.72
	Mid-Atlantic	0.56	0.71	0.57	0.64	0.54	0.67	0.65	0.78
	N. Atlantic	-	-	-	-	-	-	-	-
Pelagic sharks	Gulf of Mexico	1.29	1.18	1.25	1.47	1.54	1.33	1.45	1.27
	S. Atlantic	1.29	1.29	1.25	1.27	1.46	1.74	1.66	1.47
	Mid-Atlantic	1.06	1.20	1.16	1.19	1.30	1.39	1.69	1.35
	N. Atlantic	0.85	0.96	1.23	1.28	1.48	1.68	2.03	1.96
Small coastal sharks	Gulf of Mexico	0.58	0.62	0.69	0.55	0.58	0.66	0.33	0.37
	S. Atlantic	0.80	0.78	0.71	0.79	0.81	0.99	0.71	0.75
	Mid-Atlantic	0.43	0.48	0.57	0.57	0.59	0.68	0.83	0.80
	N. Atlantic	-	-	-	-	-	-	-	-
Shark fins	Gulf of Mexico	13.22	14.94	15.09	16.48	15.11	14.97	11.05	9.75
	S. Atlantic	11.44	12.73	13.15	15.35	14.91	11.00	6.04	9.64
	Mid-Atlantic	6.12	3.74	3.62	6.83	3.50	2.79	1.45	1.76
	N. Atlantic	3.24	3.00	3.67	2.40	1.60	1.86	1.90	-

Sources: HMS eDealer, Dealer weighout slips from the Southeast Fisheries Science Center (SEFSC), Northeast Fisheries Science Center (NEFSC), and bluefin tuna dealer reports from the Northeast Regional Office. Gulf of Mexico includes: TX, LA, MS, AL, and the west coast of FL. S. Atlantic includes: east coast of FL. GA, SC, and NC dealers reporting to SEFSC. Mid-Atlantic includes: NC dealers reporting to NEFSC, VA, MD, DE, NJ, NY, and CT. N. Atlantic includes: RI, MA, NH, and ME. For bluefin tuna, all NC landings are included in Mid-Atlantic.

5.1.2 Revenues

Table 5.3 summarizes the average annual revenues of the Atlantic HMS fisheries based on average ex-vessel prices. Data for Atlantic HMS landings weight is as reported per eDealer in 2013 and 2014, the U.S. National Report (NMFS, 2015a), the information used in the shark stock assessments, information given to ICCAT (Cortés pers. comm., 2015), as well as price and weight reported to the NMFS Northeast Regional Office by Atlantic bluefin tuna dealers. These values indicate that the estimated total annual revenue of Atlantic HMS fisheries has decreased in 2014 to $38.6 million from $43.6 million in 2013. From 2013 to 2014, the Atlantic tuna fishery's total revenue increased by $2.2 million. A majority of that increase can be attributed to the increase in commercial landings of bluefin tuna. From 2013 to 2014, the annual revenues for the shark fisheries increased by $125 thousand. Finally, the annual revenues for swordfish declined by $7.3 million from 2013 to 2014 due to a decrease in landings.

Table 5.3 Estimates of the Total Ex-vessel Annual Revenues of Atlantic HMS Fisheries (2007-2014)

Species		2007	2008	2009	2010	2011	2012	2013	2014
Bigeye tuna	Ex-vessel $/lb dw	$5.20	$5.26	$5.09	$5.22	$5.77	$6.42	$5.72	$5.86
	Weight (lb dw)	706,361	736,520	774,087	799,934	1,122,619	1,039,585	851,669	942,659
	Fishery revenue	$3,673,077	$3,874,095	$3,940,103	$4,175,655	$6,477,512	$6,674,136	$4,673,419	$5,063,822
Bluefin tuna	Ex-vessel $/lb dw	$8.63	$9.35	$8.18	$8.35	$10.08	$11.15	$8.58	$7.84
	Weight (lb dw)	515,176	720,823	899,477	1,119,937	996,661	995,583	682,533	1,002,549
	Fishery revenue	$4,445,969	$6,739,695	$7,357,722	$9,351,474	$10,046,343	$11,100,750	$5,826,566	$7,810,287
Yellowfin tuna	Ex-vessel $/lb dw	$2.90	$3.22	$2.87	$3.52	$3.60	$4.16	$3.91	$3.95
	Weight (lb dw)	4,521,240	2,423,498	3,159,665	2,154,728	2,676,682	4,349,482	2,580,759	2,573,419
	Fishery revenue	$13,111,596	$7,803,664	$9,068,239	$7,584,643	$9,636,055	$18,093,845	$11,214,871	$10,933,557
Skipjack tuna	Ex-vessel $/lb dw	$0.75	$1.01	$0.91	$1.13	$1.17	$1.06	$0.85	$0.93
	Weight (lb dw)	26,455	32,628	30,688	16,269	12,931	17,804	3,857	16,053
	Fishery revenue	$19,793	$32,950	$28,057	$18,451	$15,164	$18,949	$3,204	$12,650
Albacore tuna	Ex-vessel $/lb dw	$0.97	$1.15	$1.11	$1.36	$1.29	$1.31	$1.70	$1.49
	Weight (lb dw)	244,272	216,759	291,187	290,827	491,133	489,800	402,400	496,030
	Fishery revenue	$237,681	$248,400	$324,439	$394,754	$632,450	$639,370	$583,230	$713,871
Total tuna	Fishery revenue	$21,488,116	$18,698,804	$20,718,559	$21,524,977	$26,807,524	$36,527,050	$22,301,290	$24,534,187
Swordfish	Ex-vessel $/lb dw	$3.99	$3.68	$3.46	$4.40	$4.50	$4.41	$4.66	$4.64
	Weight (lb dw)	3,643,926	3,414,513	3,762,280	3,676,324	4,473,140	5,561,605	4,099,851	2,532,434
	Fishery revenue	$14,544,604	$12,577,768	$13,031,079	$16,186,878	$20,130,595	$24,534,334	$19,178,743	$11,870,516
Large coastal sharks	Ex-vessel $/lb dw	$0.48	$0.70	$0.54	$0.60	$0.53	$0.59	$0.64	$0.64
	Weight (lb dw)	2,329,272	1,451,423	1,532,969	1,566,741	1,469,142	1,445,597	1,392,440	1,339,826
	Fishery revenue	$1,122,051	$1,009,138	$828,003	$938,044	$779,993	$854,916	$683,359	$743,176
Pelagic sharks	Ex-vessel $/lb dw	$1.12	$1.21	$1.18	$1.23	$1.35	$1.43	$1.67	$1.45
	Weight (lb dw)	262,179	234,546	225,575	312,195	314,314	314,084	247,833	335,368
	Fishery revenue	$294,036	$284,113	$266,548	$382,527	$425,831	$449,759	$384,419	$470,404
Small coastal sharks	Ex-vessel $/lb dw	$0.70	$0.69	$0.69	$0.69	$0.75	$0.87	$0.54	$0.55
	Weight (lb dw)	618,191	639,842	708,279	397,766	590,174	667,501	439,704	425,439
	Fishery revenue	$432,816	$440,108	$488,374	$272,590	$441,269	$578,126	$275,346	$336,700
Shark fins*	Ex-vessel $/lb dw	$11.63	$12.43	$12.45	$14.02	$11.90	$8.96	$6.08	$7.71
	Weight (lb dw)	160,482	116,291	123,341	113,835	118,682	121,359	150,853	108,789
	Fishery revenue	$1,865,900	$1,444,918	$1,535,469	$1,596,472	$1,412,129	$1,086,979	$738,189	$655,796
Total sharks	Fishery revenue	$3,714,802	$3,178,277	$3,118,394	$3,189,633	$3,059,222	$2,969,779	$2,081,313	$2,206,076
Total HMS	Fishery revenue	$39,747,522	$34,454,849	$36,868,033	$40,901,488	$49,997,341	$64,031,163	$43,561,346	$38,610,779

* Shark fin total weight for 2007 through 2012 was estimated using 5% of all sharks landed. In 2013 and 2014, it was based on reported shark fin landings reported to eDealer. Sources: HMS eDealer Program, NMFS Northeast Commercial Fisheries Database Service; Pelagic Dealer Compliance Program; and NMFS, 2013.

A variety of fishing gears are used to harvest Atlantic HMS. Figure 5.2 displays the percent composition of the $38.6 million ex-vessel annual revenues landed in 2014 by fishing gear category. Based on eDealer and Atlantic bluefin tuna bi-weekly dealer report data, approximately 70 percent of 2014 total revenues in the fishery were landed by pelagic longline gear. In addition, 16 percent of landings by value were from vessels using commercial rod and reel gear, 4 percent from bottom longline gear, 3 percent from harpoon, and 6.8 percent from other gear categories. These other gear categories include gill net, purse seine, buoy gear, green-stick, hand line, and other miscellaneous gears.

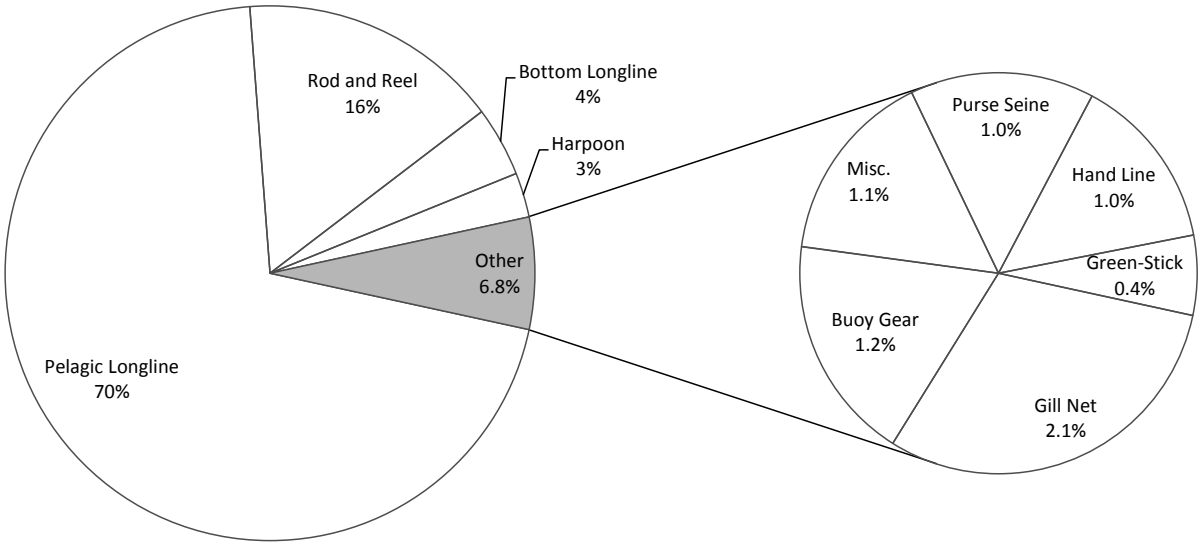

Figure 5.2 Percent of 2014 Total Ex-vessel Revenues of Atlantic HMS Fisheries By Gear

Sources: HMS eDealer and Atlantic bluefin tuna dealer reports from the Northeast Regional Office.

5.1.3 Operating Costs

NMFS has collected operating cost information from commercial permit holders via logbook reporting. Each year, 20 percent of active Atlantic HMS commercial permit holders are selected to report economic information along with their Atlantic HMS logbook or Coastal Fisheries logbook submissions. In addition, NMFS also receives voluntary submissions of the trip expense and payment section of the logbook form from non-selected vessels.

The primary expenses associated with operating an Atlantic HMS permitted PLL commercial vessel include labor, fuel, bait, ice, groceries, other gear, and light sticks on swordfish trips. Unit costs are collected on some of the primary variable inputs associated with trips. The unit costs for fuel, bait, and light sticks are reported in Table 5.4. Fuel costs decreased over 1.5 percent from 2013 to 2014 while the cost per pound for bait decreased 5.7 percent from 2013 to 2014. The unit cost per light sticks has remained the same from 2013 to 2014.

Table 5.4 Pelagic Longline Vessel Median Unit Costs for Fuel, Bait, and Light Sticks (2007–2014)

Input Unit Costs ($)	2007	2008	2009	2010	2011	2012	2013	2014
Fuel (per gallon)	2.31	3.50	2.00	2.50	3.40	3.50	3.35	3.30
Bait (per lb)	0.85	0.81	0.81	0.90	1.31	1.50	1.59	1.50
Light sticks (per stick)	0.36	0.37	0.37	0.25	0.25	0.30	0.30	0.30

Source: Fisheries Logbook System.

Table 5.5 provides the median total cost per trip for the major variable inputs associated with Atlantic HMS trips taken by pelagic longline vessel. Fuel costs are one of the largest variable expenses. While fuel price decreased slightly in 2014, total median pelagic longline vessel fuel costs per trip increased 48 percent from 2013 to 2014 to a level similar to 2010-2012 levels.

Table 5.5 Median Input Costs for Pelagic Longline Vessel Trips (2007–2014)

Input Costs ($)	2007	2008	2009	2010	2011	2012	2013	2014
Fuel	2,200	2,905	1,800	1,120	1,306	1,500	948	1,399
Bait	1,400	1,459	1,745	1,900	3,105	3,000	3,000	2,940
Light sticks	670	595	560	500	640	725	750	740
Ice costs	540	479	500	450	600	675	585	648
Grocery expenses	800	761	880	780	900	900	900	900
Other trip costs	1,500	1,758	1,654	1,500	1,622	1,274	1,200	150

Source: Fisheries Logbook System.

Labor costs are also an important component of operating costs for HMS pelagic longline vessels. Table 5.6 lists the number of crew on a typical pelagic longline trip. The median number of crew members has been consistently three from 2007 to 2014. Most crew and captains are paid based on a lay system. According to Atlantic HMS logbook reports, owners are typically paid 50 percent of revenues. Captains receive a 24 percent share and crew in 2014 received 25 percent on average. These shares are typically paid out after costs are netted from gross revenues. Median total shared costs per trip on pelagic longline vessels have ranged from $6,000 to $9,976 from 2007 to 2014.

Table 5.6 Median Labor Inputs for Pelagic Longline Vessel Trips (2007–2014)

Labor	2007	2008	2009	2010	2011	2012	2013	2014
Number of crew	3	3	3	3	3	3	3	3
Owner share (%)	47	45	47	50	50	50	50	50
Captain share (%)	20	20	20	23	23	25	23	24
Crew share (%)	15	18	25	25	25	30	25	25
Total shared costs ($)	6,000	6,500	6,500	7,245	9,976	8,160	8,045	7,703

Source: Fisheries Logbook System.

In 2014, median reported total trip sales were $18,233. In 2013, median reported total trip sales were $14,325. After adjusting for operating costs, median net earnings per trip were $6,137 in 2013. Median net earnings per trip increased to $10,737 in 2014.

The primary expenses associated with operating an Atlantic HMS-permitted BLL commercial vessel include labor, fuel, bait, ice, groceries, and other miscellaneous expenses. These expenses are reported in the Coastal Fisheries Logbook for vessels that have been selected for reporting economic information. HMS BLL trips primarily target shark species and are of short duration. Table 5.7 provides the median reported trip input costs from 2007 to 2014.

Table 5.7 Median Input Costs for Bottom Longline Vessel Trips (2007–2014)

Input Costs	2007	2008	2009	2010	2011	2012	2013	2014
Fuel	$357	$146	$106	$130	$184	$175	$124	$151
Bait	$300	$50	$20	$50	$50	$100	$75	$85
Ice costs	$100	$50	$20	$50	$50	$36	$40	$44
Grocery expenses	$100	$25	$20	$50	$50	$50	$25	$50
Misc. trip costs	$75	$20	$15	$15	$34	$26	$30	$24
Number of crew	3	2	2	2	2	2	2	2
Days at sea	2	1	1	1	2	1	1	1

Source: Fisheries Logbook System.

In 2014, median reported total trip sales were $900 for vessels using BLL gear. In 2013, median reported total trip sales were $1,010. After adjusting for operating costs, median net earnings per BLL trip were $721 in 2013. Median net earnings per trip decreased to $582 in 2014.

It should be noted that operating costs for the Atlantic HMS commercial fleet vary considerably from vessel to vessel. The factors that impact operating costs include unit input costs, vessel size, fishing gear, target species, and geographic location, among other things.

5.2 Fish Processing and Wholesale Sectors

Consumers spent an estimated $91.7 billion for fish products in 2014, including $61.4 billion at food service establishments, $29.9 billion in retail sales for home consumption, and $375 million for industrial fish products. The commercial marine fishing industry contributed $45.3 billion (in value added) to the U.S. Gross National Product in 2014 (NMFS, 2015).

5.2.1 Dealers

NMFS does not currently have specific information regarding the costs and revenues for Atlantic HMS dealers. In general, dealer costs include: purchasing fish; paying employees to process the fish; rent or mortgage; and supplies to process the fish. Some dealers may provide loans to the vessel owner, money for vessel repairs, fuel, ice, bait, etc. In general, outlays and revenues of dealers are not as variable or unpredictable as those of a vessel owner; however, dealer costs may fluctuate depending upon supply of fish, labor costs, and equipment repair.

Although NMFS does not have specifics regarding HMS dealers, there is some information on the number of employees for processors and wholesalers in the United States provided in *Fisheries of the United States* (NMFS, 2015). Table 5.8 provides a summary of available information.

Table 5.8 Processors and Wholesalers: Plants and Employment (2013)

Area and State	Processing[1]		Wholesale[2]		Total	
	Plants	Employment	Plants	Employment	Plants	Employment
New England						
Maine	38	741	170	1,287	208	2,028
New Hampshire	10	241	10	111	20	352
Massachusetts	51	2,193	158	2,158	209	4,351
Rhode Island	10	*	37	-	47	*
Connecticut	4	75	15	186	19	261
Total	113	3,250	390	3,742	503	6,992
Mid-Atlantic						
New York	20	408	277	2,016	297	2,424
New Jersey	17	578	81	926	98	1,504
Pennsylvania	3	*	31	663	34	663
Delaware	2	*	4	18	6	18
District of Columbia	-	-	1	*	1	*
Maryland	16	388	52	547	68	935
Virginia	36	1,441	62	476	98	1,917
Total	94	2,815	508	4,646	602	7,461
South U.S. Atlantic						
North Carolina	28	651	56	408	84	1,059
South Carolina	3	*	24	158	27	158
Georgia	6	616	31	584	37	1,200
Florida	43	1,473	300	2,288	343	3,761
Total	80	2,740	411	3,438	491	6,178
Gulf of Mexico						
Alabama	33	1,346	16	251	49	1,597
Mississippi	23	2,224	20	99	43	2,323
Louisiana	62	1,883	96	622	158	2,505
Texas	38	1,524	114	1,090	152	2,614
Total	156	6,977	246	2,062	402	9,039
Inland States or Other						
Areas**, Total	56	1,830	232	2,833	288	4,663

[1] Based on North American Industry Classification System (NAICS) 3117 as reported to the Bureau of Labor Statistics. [2] Based on North American Industry Classification System (NAICS) 42446 as reported to the Bureau of Labor Statistics. *Included with Inland States. **Includes Puerto Rico and U.S. Virgin Islands. Source: NMFS, 2015b.

5.2.2 Processing Sector

NMFS does not currently collect wholesale price information from dealers.

NMFS has information regarding the mark-up percentage paid by consumers. A mark-up or margin is the difference between the price paid for the product by the consumer and the wholesale or dockside value for an equivalent weight of the product. This information is presented in Table 5.9. Primary wholesalers and processors on average received a 62 percent margin on sales in 2014, which is lower than margins in 2013.

Table 5.9 Summary of the Mark-Up and Consumer Expenditures for the Primary Wholesale and Processing of Domestic Commercial Marine Fishery Products

	2012	2013	2014
Purchase of fishery inputs ($)	8,687,636,000	9,690,909,000	10,924,641,000
Percent mark-up of fishery inputs (%)	90	77	62
Total mark-up ($)	7,803,257,000	7,510,336,000	6,791,794
Value added as percent of total mark-up (%)	60	60	60
Value added within sector ($)	4,714,590,000	4,534,951,000	4,101,187,000
Total value of sales within sector ($)	16,490,893,000	17,201,245,000	17,716,435,000

Source: NMFS, 2015b.

5.3 International Trade

Several Regional Fishery Management Organizations (RFMOs), including ICCAT, have taken steps to improve the collection of international trade data in order to estimate landings related to these fisheries, and to identify potential compliance problems with certain RFMO management measures. This section describes the United States' participation in HMS related international trade programs, a review of U.S. HMS export activity, import activity, and data use.

The United States collects general trade monitoring data through the U.S. Bureau of Customs and Border Protection (CBP; imports) and the U.S. Bureau of the Census (Census Bureau; exports and imports). These programs collect data on the amount and value of imports and exports categorized under the Harmonized Tariff Schedule (HTS). Many HMS have distinct HTS codes, and some species are further subdivided by product (e.g., fresh or frozen, fillets, steaks, etc.). NMFS provides Census Bureau trade data for marine fish products online for the public at http://www.st.nmfs.gov/st1/trade/index.html. Some species are combined into groups (e.g., sharks), which can limit the value of these data for fisheries management when species-specific information is required. Often the utility of these data are further limited if the ocean area of origin for each product is not distinguished. For example, the HTS code for Atlantic, Pacific, and Indian Ocean bigeye tuna is the same.

NMFS implemented the HMS International Trade Permit (ITP) in 2005 (69 FR 67268, November 17, 2004) to identify importers and exporters of HMS products that require trade monitoring documentation (i.e., bluefin tuna, swordfish, and frozen bigeye tuna). Traders of shark fins must also be permitted. Currently there are 259 permit holders distributed among 25 U.S. states and territories (Table 5.10). Copies of the ITP application and all trade monitoring documents associated with these programs are found on the NMFS HMS Management Division webpage at http://www.nmfs.noaa.gov/sfa/hms/. These and several other trade monitoring programs established by NMFS for HMS are described in greater detail in the 2011 HMS SAFE Report.

Table 5.10 Number of International Trade Permits (ITPs) by State (as of November 2015)

State	Number of ITPs	State	Number of ITPs
AR	1	NH	2
AS	1	NJ	7
CA	70	NV	1
DC	1	NY	31
FL	59	OH	1
GA	2	OR	1
HI	14	PA	1
IL	2	RI	6
LA	2	SC	1
MA	30	TX	5
MD	1	VA	1
ME	9	WA	8
NC	2		
Total			259

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

CITES is an international agreement that regulates the global trade in endangered plants and wildlife. The goal of CITES is to protect and regulate species of animals and plants to ensure that commercial demand does not threaten their survival in the wild. Countries cooperate through a system of permits and certificates that confirm the trade of specific species is legal. Species listed on Appendix I are considered to be at risk of extinction, and are prohibited from international commercial trade, except in special circumstances. Species listed on Appendix II are those that are vulnerable to overexploitation, but not at risk of extinction. In every case of an import or export of an Appendix II species, an export/import permit may only be issued if, the export/import will not be detrimental to the survival of the species, the specimen was legally acquired (in accordance with the national wildlife protection laws) and any live specimen will be shipped in a manner which will not cause it any damage. During the sixteenth meeting of the Conference of Parties to CITES (CoP16), the United States and Brazil cosponsored a successful Columbian proposal to list oceanic whitetip shark under Appendix II. The United States cosponsored this listing because of concerns that over-exploitation to supply the international fin trade negatively affects the population status of this species. Three species of hammerhead shark (scalloped, smooth, and great) were also added to Appendix II during CoP16, where they joined previously listed whale, basking, and great white sharks, along with oceanic whitetip shark. These Appendix II listings were effective September 14, 2014.

On June 27, 2012, the CITES Secretariat sent a Notification to the Parties regarding the inclusion of two shark species, scalloped hammerhead (*Sphyrna lewini*) and porbeagle (*Lamna nasus*), in CITES Appendix III. Their inclusion in Appendix III requires member parties to issue CITES permits or certificates for the import, export, and re-export of these species (or any of their parts or products). It also means that any U.S. import, export, or re-export of these species requires a declaration to and clearance from the U.S. Fish and Wildlife Service. In accordance with provisions of Article XVI, paragraph 2 of the CITES Convention, the inclusion of these species in Appendix III took effect 90 days after the Notification (i.e., effective as of September 25, 2012).

5.3.1 U.S. Exports of HMS

"Exports" may include merchandise of both domestic and foreign origin. The Census Bureau defines exports of "domestic" merchandise to include commodities that are grown, produced, or manufactured in the United States (e.g., fish caught by U.S. fishermen). For statistical purposes, domestic exports also include commodities of foreign origin which have been altered in the United States from the form in which they were imported, or which have been enhanced in value by further manufacture in the United States. The value of an export is the FAS (free alongside ship) value defined as the value at the port of export based on a transaction price including inland freight, insurance, and other charges incurred in placing the merchandise alongside the carrier. It excludes the cost of loading the merchandise, freight, insurance, and other charges or transportation costs beyond the port of export.

Atlantic and Pacific Bluefin Tuna Exports

Table 5.11 gives bluefin tuna export data for exports from the United States since 2004 and includes data from the NMFS BCD program and Census Bureau data. The Census Bureau usually reports a greater amount of bluefin tuna exported when compared to the amount reported by NMFS. Additional quality control measures are taken by NMFS to ensure data for other species (e.g., Southern bluefin tuna) or other transaction types (e.g., re-exports) are not erroneously included with bluefin tuna export data. Bluefin tuna re-export data are listed separately later in this section (Table 5.19).

Table 5.11 United States Exports of Atlantic and Pacific Bluefin Tuna (2004-2014)

Year	Atlantic BFT Commercial Landings[1] (mt dw)	Atlantic BFT Exports[2] (mt dw)	Pacific BFT Exports[2] (mt dw)	Total U.S. Exports[2] (mt dw)	Total U.S. Exports[3] (mt)	Value of U.S. Exports[3] ($ million)
2004	428.6	247.3	0.0	247.3	370	4.50
2005	419.4	245.7	125.1	370.8	454	5.30
2006	204.6	93.1	0.0	93.1	281	3.60
2007	196.4	85.4	8.2	93.6	238	2.90
2008	266.4	146.5	0.0	146.5	177	2.49
2009	408.5	236.2	0.0	236.2	300	4.05
2010	509.5	334.2	0.0	334.2	346	4.90
2011	453.6	329.5	0.8	330.5	293	4.03
2012	452.2	334.5	0.0	334.5	511	4.91
2013	310.4	139.0	0.0	139.0	296	2.92
2014	567.7	195.3	160.8	356.1	381	3.36

Note: most exports of Pacific bluefin tuna (BFT) were in round (whole) form, although some exports were of dressed and gilled/gutted fish; Atlantic exports were almost entirely dressed, but also included whole and other product forms (dw); data are preliminary and subject to change. Sources: [1] Northeast Regional Office, [2] NMFS Bluefin Tuna Catch Document Program, and [3] U.S. Census Bureau.

In the time series shown in Table 5.11 and depicted in Figure 5.3, U.S. exports of Atlantic bluefin tuna generally increased when commercial landings increased, while domestic consumption of U.S. landings remained fairly constant (i.e., between 100 and 200 mt) from year

to year, except in 2014 when domestic consumption increased to almost 400 mt. Most U.S. bluefin tuna exports are destined for the sushi markets in Japan. As shown in Figure 5.3 and Figure 5.4, the percentage of the commercial U.S. bluefin tuna catch that was exported was relatively low for the last two years and was also low when landings declined to their lowest point in 2007.

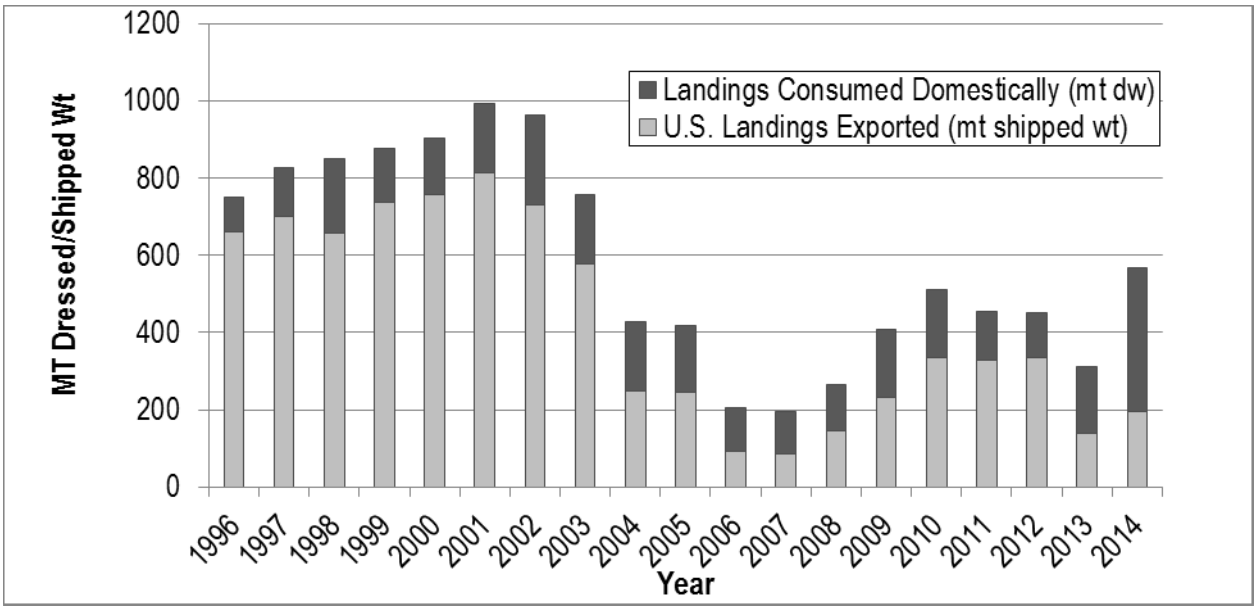

Figure 5.3 Annual U.S. Domestic Landings of Atlantic Bluefin Tuna, Divided into U.S. Export (mt shipped weight) and U.S. Domestic Consumption (mt dw) (1996-2014)

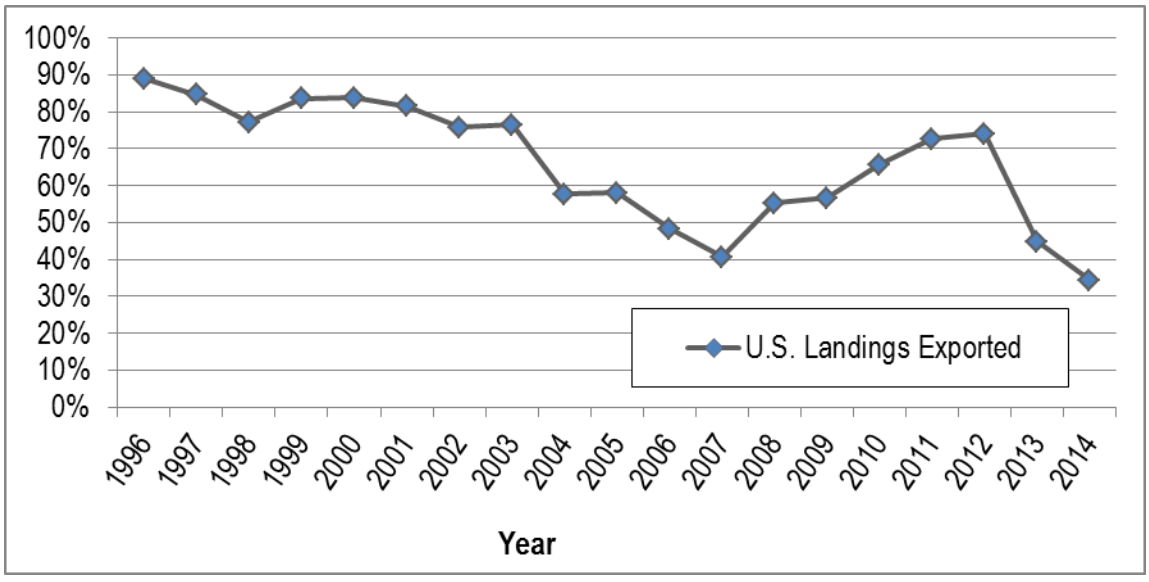

Figure 5.4 Annual Percentage (by weight) of Commercially-Landed U.S. Atlantic Bluefin Tuna that was Exported (1996-2014)

Other Tuna Exports

Export data for other tunas is gathered by the Census Bureau, and includes trade data for albacore, yellowfin, bigeye, and skipjack tuna from all ocean areas of origin combined. The value of annual albacore exports has exceeded the value for any other tuna export since the beginning of the time series. The total value of albacore exports has remained over $20 million per year for the last nine years (Table 5.12) and over $30 million for the last three years. Most albacore exports are Pacific in origin, as Atlantic landings have ranged between 189 mt and 640 mt during the time series in Table 5.12, but total U.S. exports has ranged from 15,251 mt in 2013 to a low of 7,951 mt in 2005.

Table 5.12 U.S. Atlantic Landings and Total U.S. Exports of Albacore Tuna (2004–2014)

		U.S. Exports (from all ocean areas)[2]					
		Fresh		Frozen		Total for all Exports	
Year	Atlantic Landings (mt ww)[1]	Amount (mt)	Value ($ million)	Amount (mt)	Value ($ million)	Amount (mt)	Value ($ million)
2004	640	1,360	3.28	10,737	24.11	12,097	27.38
2005	486	549	1.61	7,402	16.99	7,951	18.60
2006	400	378	1.04	8,810	19.56	9,187	20.60
2007	532	275	0.84	11,731	25.52	12,006	26.35
2008	257	997	2.69	7,958	22.54	8,955	25.23
2009	189	417	1.02	9,903	22.58	9,510	23.60
2010	315	1,269	3.25	8,528	23.31	9,798	26.56
2011	422	531	1.47	9,807	23.73	10,338	25.20
2012	418	1,256	4.46	9,787	26.51	11,043	30.97
2013	599	1,481	4.88	13,770	34.73	15,251	39.62
2014	459	2,970	8.56	8,905	27.52	11,875	36.09

Note: Landings may be calculated on a calendar or fishing year basis; exports may be in whole (ww) or product weight (dw); data are preliminary and subject to change. Sources: [1]NMFS, 2015, [2]U.S. Census Bureau.

Table 5.13 and Table 5.14 show U.S. Atlantic landings and U.S. exports from all ocean areas for yellowfin and skipjack tuna, respectively. Yellowfin exports were greater and more valuable than exports for skipjack or bigeye tuna (Table 5.15) and were unusually high in 2008. Amounts of frozen yellowfin were the lowest of the time series in 2011, but increased dramatically over the last three years, making total exports over the last three years, three out of the four highest values in the time series. Table 5.14 shows that the amount and value of exported fresh and frozen skipjack tuna has varied over the eleven year time series without any perceptible pattern. Fresh skipjack exports had fallen consistently over the last several years, but increased in 2014. In 2009, the amount of exported product, and in 2013 the exported value ($3.43 million), peaked for the time series.

Table 5.13 U.S. Atlantic Landings and Total U.S. Exports of Yellowfin Tuna (2004-2014)

Year	Atlantic Landings (mt ww)[1]	U.S. Exports (from all ocean areas)[2]					
		Fresh		Frozen		Total for all Exports	
		Amount (mt)	Value ($ million)	Amount (mt)	Value ($ million)	Amount (mt)	Value ($ million)
2004	6,437	306	1.54	242	0.31	549	1.86
2005	5,562	158	1.70	291	0.97	449	2.67
2006	7,090	183	1.96	108	0.37	291	2.32
2007	5,529	148	1.75	138	0.44	286	2.19
2008	2,407	198	2.09	4,140	9.06	4,338	11.16
2009	2,802	221	2.51	274	0.66	495	3.17
2010	2,482	211	2.31	70	0.33	281	2.64
2011	3,010	278	3.03	56	0.23	334	3.26
2012	4,100	311	3.35	535	1.91	846	5.26
2013	2,332	224	2.55	624	1.88	848	4.43
2014	2,666	332	2.46	554	1.33	886	3.79

Note: Landings may be calculated on a calendar or fishing year basis; exports may be in whole (ww) or product weight (dw); data are preliminary and subject to change. Sources: [1]NMFS, 2015, [2]U.S. Census Bureau.

Table 5.14 U.S. Atlantic Landings and Total U.S. Exports of Skipjack Tuna (2004-2014)

Year	Atlantic Landings (mt ww)[1]	U.S. Exports (from all ocean areas)[2]					
		Fresh		Frozen		Total for all Exports	
		Amount (mt)	Value ($ million)	Amount (mt)	Value ($ million)	Amount (mt)	Value ($ million)
2004	102	55	0.30	140	0.18	196	0.48
2005	30	35	0.14	-	-	35	0.14
2006	61	6	0.02	23	0.04	30	0.06
2007	67	17	0.06	77	0.12	94	0.18
2008	67	31	0.15	350	0.41	381	0.56
2009	119	206	0.54	530	0.71	737	1.25
2010	54	194	0.57	126	0.17	319	0.73
2011	87	162	0.47	14	0.05	176	0.52
2012	112	46	0.17	293	1.17	334	1.34
2013	117	10	0.04	575	3.40	585	3.43
2014	77	152	0.23	77	0.52	228	0.75

Note: Landings may be calculated on a calendar or fishing year basis; exports may be in whole (ww) or product weight (dw); data are preliminary and subject to change. Sources: [1] NMFS, 2015, [2] U.S. Census Bureau.

Bigeye tuna exports and Atlantic landings are given in Table 5.15. Atlantic landings have generally been increasing since 2008, but are still below the 2006 high of 991 mt. Annually, bigeye tuna exports include more fresh than frozen product, except in 2008 and 2012 when exports of frozen product were greater (318 mt and 386 mt, respectively). Amounts of both fresh and frozen exports in 2013 (147 mt, 25 mt respectively) dropped substantially from values in 2012 (293 mt and 386 mt, respectively), and then again in 2014 (66 mt and 8 mt, respectively).

Table 5.15 U.S. Atlantic Landings and Total U.S. Exports of Bigeye Tuna (2004-2014)

Year	Atlantic Landings (mt ww)[1]	U.S. Exports (from all ocean areas)[2]					
		Fresh		Frozen		Total for all Exports	
		Amount (mt)	Value ($ million)	Amount (mt)	Value ($ million)	Amount (mt)	Value ($ million)
2004	419	361	1.40	48	0.10	410	1.51
2005	484	431	1.95	50	0.12	481	2.07
2006	991	223	1.69	76	0.20	299	1.89
2007	527	128	1.38	65	0.14	193	1.52
2008	489	145	1.72	318	0.96	462	2.68
2009	515	121	1.53	78	0.19	199	1.72
2010	571	141	1.96	37	0.11	179	2.07
2011	719	199	2.13	44	0.13	243	2.26
2012	867	293	2.38	386	1.14	679	3.52
2013	880	147	1.36	25	0.13	172	1.49
2014	866	66	0.66	8	0.85	73	0.74

Note: Landings may be calculated on a calendar or fishing year basis; exports may be in whole (ww) or product weight (dw); data are preliminary and subject to change. Sources: [1]NMFS, 2015, [2]U.S. Census Bureau.

Shark Exports

Export data for sharks are gathered by the Census Bureau, and include trade data for sharks from any ocean area of origin. Shark exports are not categorized to the species level, with the exception of spiny dogfish, and are not identified by specific product code other than fresh or frozen meat and fins. Due to the popular trade in shark fins and their high relative value compared to shark meat, a specific HTS code was assigned to shark fins in 1998. It should be noted that there is no tracking of other shark products besides meat and fins. Therefore, NMFS cannot track trade in shark leather, oil, or shark cartilage products.

Table 5.16 indicates the magnitude and value of shark exports by the United States from 2004 – 2014. The amount and value of exports have decreased annually over the last two years. The price per kg of frozen product has consistently risen since 2010, and reached a high for the time series in 2014. Exports of shark fins were lowest in 2008 and 2012 (11 mt), followed by 2013 (12 mt). The price of shark fins was greatest in 2011 ($100.67/kg). Also of note is the variability in price and amount of frozen exports. Frozen exports dramatically increased in 2008 (4,122 mt), dropped to a low in 2011 (59 mt), and increased again in 2013 (1,043 mt). The amount of exports have decreased annually over the last two years, but the price per kg of total product has consistently risen since 2011, and reached a high for the time series in 2014 ($6.42/kg).

Table 5.16 Amount and Value of U.S. Shark Products Exported (2004-2014)

Year	Dried Shark Fins			Non-specified Fresh Shark			Non-specified Frozen Shark			Total for All Exports	
	Amount (mt)	Value ($ MM)	Value ($/kg)	Amount (mt)	Value ($ MM)	Value ($/kg)	Amount (mt)	Value ($ MM)	Value ($/kg)	Amount (mt)	Value ($ MM)
2004	63	3.02	47.53	536	1.18	2.21	472	0.98	2.09	1,071	5.18
2005	31	2.37	76.93	377	1.03	2.73	494	1.06	2.15	902	4.46
2006	34	3.17	94.66	816	1.62	1.99	747	1.38	1.85	1,597	6.17
2007	19	1.78	93.68	502	1.05	2.09	695	1.35	1.94	1,216	4.18
2008	11	0.69	63.00	559	1.21	2.16	4,122	7.21	1.75	4,692	9.11
2009	56	2.82	50.36	254	0.72	2.83	320	1.33	4.16	630	4.87
2010	36	2.89	80.28	222	0.67	3.02	244	0.52	2.11	502	4.08
2011	15	1.51	100.67	333	0.89	2.66	59	0.22	3.77	407	2.62
2012	11	0.99	91.75	436	1.08	2.47	106	4.52	4.28	1,501	6.58
2013	12	0.79	65.63	196	0.57	2.90	1,043	5.21	5.00	1,250	6.57
2014	18	0.98	54.44	217	0.57	2.63	827	5.31	6.42	1,064	6.86

$ MM – millions of dollars. Note: Exports may be in whole (ww) or product weight (dw); data are preliminary and subject to change. Source: U.S. Census Bureau.

Swordfish Exports

Swordfish harmonized tariff schedule (HTS) categories were modified in 2007 and again in 2012. The low cost and year round availability of swordfish imports into the United States are believed to have reduced the marketability of U.S. domestic swordfish. A modest export market for U.S. product has been available since 2007, Table 5.17 but total exports have generally decreased over the course of the time series.

Table 5.17 Amount and Value of U.S. Swordfish Product Exported (2007-2014)

Year	Swordfish Fillet				Swordfish				Swordfish Meat				Total	
	Fresh		Frozen		Fresh		Frozen		Fresh		Frozen			
	Amount (mt)	Value ($MM)	Amount (mt)	Value ($ MM)	Amount (mt)	Value ($ MM)	Amount (mt)	Value ($ MM)	Amount (mt)	Value ($ MM)	Amount (mt)	Value ($ MM)	Amount (mt)	Value ($ MM)
2007	38	0.33	11	0.08	135	0.91	11.0	0.04	-	-	216.0	0.69	412	2.1
2008	24	0.25	48	0.34	121	0.89	1.2	0.01	-	-	154.0	0.88	349	2.4
2009	43	0.38	19	0.23	133	0.81	12.1	0.04	-	-	24.0	0.13	231	1.6
2010	98	0.71	16	0.15	134	0.78	0.6	0.01	-	-	3.0	0.02	252	1.7
2011	32	0.26	31	0.28	134	0.80	72.4	0.45	-	-	0.5	0.01	269	1.8
2012	0	0.01	4	0.05	141	0.82	10.8	0.09	7.0	0.09	4.5	0.03	168	1.1
2013	0	0	18	0.09	160	0.87	13.0	0.13	2.6	0.04	2.4	0.02	196	1.2
2014	1.0	0.01	14	0.14	115	0.63	22.2	0.06	3.1	0.04	1.4	0.01	156	0.9

$ MM – in millions of dollars. Source: U.S. Census Bureau.

Re-exports of Atlantic HMS

For purposes of international trade tracking of HMS, the term "re-export" refers to a product that has been "entered for consumption" into the United States and then exported to another country, with or without further processing in the United States (from 50 CFR Part 300, Subpart M, International Trade Documentation and Tracking Programs for HMS). For most HMS species for most years, re-export activity is a small fraction of export activity and well below relative reference points of 1,000 mt and/or one million dollars annually. Re-exports of yellowfin tuna (fresh or frozen) and shark fins most frequently exceed these values. Annual re-export figures in excess of these relative reference points are given in Table 5.18.

In previous editions of SAFE reports, bluefin tuna re-exports for 2003-2005 reflected a great deal of transshipment from Mexico through the United States to Japan. Implementation of the HMS ITP regulations in 2005 (69 FR 67268, November 17, 2004) changed the way re-exports and transshipments were distinguished. Table 5.19 shows re-exports of bluefin tuna since 2004, and is updated to reflect these changes for previous years. Re-exports of bluefin tuna in 2013 were particularly high.

Table 5.18 Re-exports of HMS (Excluding Bluefin Tuna) in Excess of 1000 mt and/or One Million U.S. Dollars (2004–2014)

Year	Product	Amount (mt)	Value ($ million)
2004	Shark fins, dried	29	1.84
2005	Yellowfin tuna, fresh	123	2.30
	Shark fins, dried	34	1.53
2006	Yellowfin tuna, fresh	208	2.62
2007	Yellowfin tuna, fresh	208	2.91
	Yellowfin tuna, frozen	506	1.80
2008	Yellowfin tuna, fresh	224	3.40
	Shark fins, dried	26	1.37
2009	Yellowfin tuna, fresh	162	2.18
2010	Yellowfin tuna, fresh	130	1.88
	Yellowfin tuna, frozen	340	1.12
2011	Yellowfin tuna, fresh	117	1.85
	Swordfish fillet, frozen	302	2.70
	Shark fins, dried	23	1.42
2012	Yellowfin tuna, fresh	123	2.26
	Yellowfin tuna, frozen	515	1.63
	Shark fins*	41	1.86
	Shark, unspecified, frozen	405	1.46
2013	Yellowfin tuna, fresh	102	1.80
2014	Yellowfin tuna, fresh	65	1.17

* In 2012, the product classification "shark fin, dried" in the HTS was renamed "shark fins." Source: U.S. Census Bureau.

Summary of Atlantic HMS Exports

As indicated in the previous section, the value of HMS exports (from all ocean areas combined) is nationally dominated by tuna products. In 2014, fresh and frozen tuna products

accounted for 15,133 mt dw or 1.1 percent of the 1,420,708 mt dw of fresh and frozen seafood products exported from the United States, as indicated in *Fisheries of the United States, 2014.* The value of these HMS products accounted for $51.6 million, out of a national total of $5.8 billion.

Data reflecting international trade of HMS species harvested from all ocean areas are of limited value for describing trade of HMS harvested from the Atlantic Ocean. For example, Atlantic landings of albacore tuna (commercial and recreational) for 2013 were reported in the 2014 U.S. National Report to ICCAT as 599 mt (Table 5.12). National trade data show that over 15,251 mt of albacore were exported in 2013, indicating the majority of albacore exports were Pacific Ocean product. Trade tracking programs such as the bluefin tuna, swordfish, and bigeye tuna consignment document programs are more accurate for tracking the international disposition of Atlantic HMS.

5.3.2 U.S. Imports of HMS

All import shipments must be reported to and cleared by CBP. "General" imports are reported when a commodity enters the country, and "consumption" imports consist of entries into the United States for immediate consumption combined with withdrawals from CBP bonded warehouses. "Consumption" import data reflect the actual entry of commodities originating outside the United States into U.S. channels of consumption. As discussed previously, CBP data for certain products are provided to NMFS for use in implementing consignment document programs. U.S. Census Bureau import data are used by NMFS as well.

Atlantic and Pacific Bluefin Tuna Imports

United States imports and re-exports of bluefin tuna for 2004 through 2014, as reported through both CBP and BCD program data, are shown in Table 5.19.

Table 5.19 U.S. Imports and Re-exports of Atlantic and Pacific Bluefin Tuna (2004–2014)

	NMFS BFT Catch Document Program		U.S. Customs and Border Protection	
Year	Imports (mt)	Re-exports (mt)	Imports (mt)	Value ($ million)
2004	823.4	17.1	886.1	15.25
2005	966.1	10.4	1,064.0	19.96
2006	791.5	18.5	865.2	17.05
2007	584.6	17.7	697.1	13.97
2008	412.7	16.8	487.1	11.91
2009	407.7	33.6	476.8	10.29
2010	569.5	61.6	682.5	15.75
2011	442.5	35.1	555.4	14.01
2012	400.2	25.9	770.4	14.74
2013	568.9	71.3	1,177.5	20.52
2014	670.4	40.7	1,087.2	20.75

Note: Most imports of bluefin tuna (BFT) were in dressed form, and some were round and gilled/gutted fish, fillets or belly meat (dw); data are preliminary and subject to change. Southern BFT trade was included in figures for Atlantic and Pacific BFT trade prior to 2002. Sources: NMFS Bluefin Tuna Catch Document Program and U.S. Customs and Border Protection.

The rise in popularity of sashimi in the United States may have generated the increase in imports of Atlantic and Pacific bluefin tuna in the mid part of the decade, as seen in Table 5.19. Dealers have reported an expanded domestic market for both locally-caught and imported raw tuna.

U.S. consumption of Atlantic bluefin tuna (landings + imports – exports – re-exports) generally increased from 1996 to a high of approximately 800 mt in 2005, and generally ranged between 400 and just over 500 mt from 2008 through 2012 (Figure 5.5). Consumption was higher in 2013 and increased again in 2014. Consumption of domestic landings has been fairly consistent, ranging between about 100 mt to 200 mt per year until 2014 when domestic landings consumption climbed to almost 400 mt. Consumption of imported bluefin tuna was more variable and ranged from a low in 1997 of less than 50 mt to a high in 2006 of almost 700 mt.

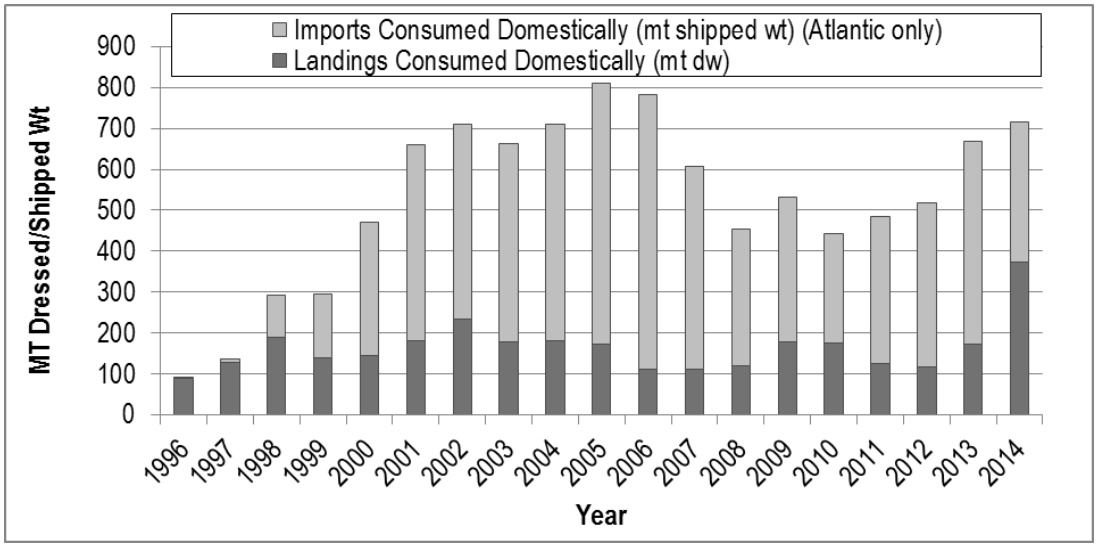

Figure 5.5 U.S. Annual Consumption of Atlantic Bluefin Tuna, by Imports and U.S. Landings (1996-2014)

Annual U.S. imports, re-exports, exports (mt shipped wt), and landings (mt dw) are also depicted. Consumption = landings + imports – exports – re-exports.

Figure 5.6 shows U.S. domestic landings of Atlantic bluefin tuna and trade of bluefin tuna since 1996. From 2004 through 2013, the United States imported more bluefin tuna than it exported (except for 2010). This trade gap was greatest between 2005 and 2007, and increased again in 2013.

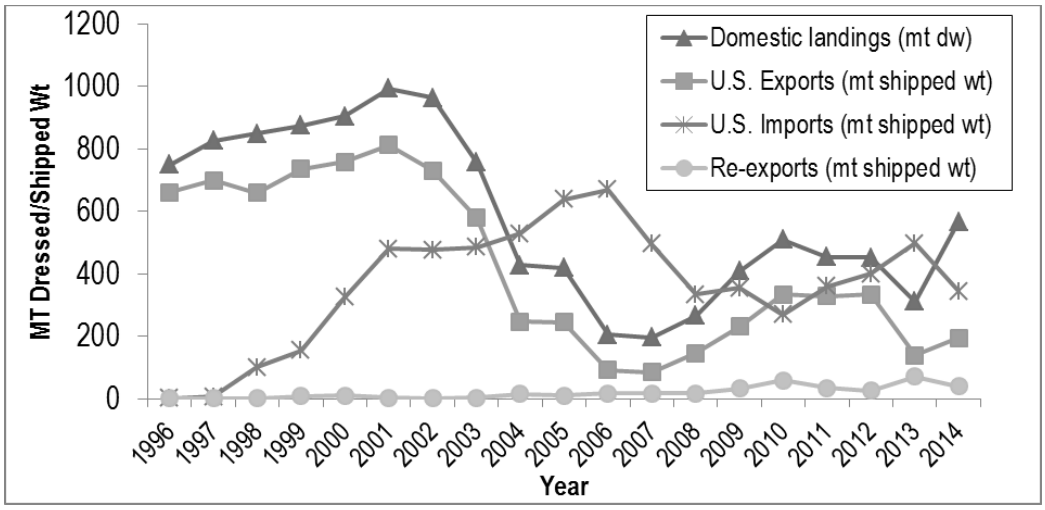

Figure 5.6 U.S. Domestic Landings (mt dw) and Trade (mt shipped weight) of Bluefin Tuna (1996-2014)

Other Tuna Imports

CBP collects species-specific import information for bigeye tuna, grouped to include all ocean areas. The total amount of bigeye tuna imports has ranged between 3,498 (2011) and 8,059 mt (2008) over the time series, as shown in Table 5.20. Total imports of fresh bigeye since 2010 have been below the eleven year annual average of 5,804 mt.

Table 5.20 U.S. Imports of Bigeye Tuna from All Ocean Areas Combined (2004-2014)

	Fresh		Frozen		Total for all Imports	
Year	Amount (mt)	Value ($ MM)	Amount (mt)	Value ($ MM)	Amount (mt)	Value ($ MM)
2004	6,752	49.10	1,175	2.62	7,928	51.73
2005	5,040	38.18	1,539	3.33	6,579	41.51
2006	4,920	36.55	1,523	3.15	6,442	39.70
2007	5,617	42.30	1,512	3.19	7,129	45.49
2008	5,462	41.43	2,597	5.31	8,059	46.74
2009	5,459	41.72	1,125	2.36	6,584	44.08
2010	4,025	32.39	316	0.73	4,340	33.12
2011	3,011	26.72	487	1.01	3,498	27.73
2012	3,723	33.43	580	1.22	4,304	34.65
2013	4,023	35.51	498	1.02	4,521	36.52
2014	4,126	35.61	338	0.68	4,465	36.30

$ MM – in millions of dollars. Note: Imports may be whole weight (ww) or product weight (dw); data are preliminary and subject to change. Source: U.S. Census Bureau.

Annual yellowfin tuna imports into the United States for all ocean areas combined are given in Table 5.21. As indicated by the data in this section, yellowfin tuna products are imported in the greatest quantity of all fresh and frozen tuna products. The annual value and total amount of yellowfin imports generally increased from 2004 to 2007 and were lower since then. Most imported yellowfin products were fresh. The least amount of yellowfin imported during this time series was in 2009.

Table 5.21 U.S. Imports of Yellowfin Tuna from All Ocean Areas Combined (2004–2014)

	Fresh		Frozen		Total for all Imports	
Year	Amount (mt)	Value ($ million)	Amount (mt)	Value ($ million)	Amount (mt)	Value ($ million)
2004	15,624	99.41	5,833	35.35	21,457	134.96
2005	17,064	116.58	6,002	46.89	23,066	163.47
2006	17,792	126.47	5,442	42.78	23,234	169.25
2007	17,985	137.42	5,506	44.26	23,492	181.69
2008	15,904	129.59	3,847	27.97	19,751	157.56
2009	14,199	112.34	2,868	24.73	17,067	137.07
2010	15,985	128.69	2,077	16.91	18,062	145.60
2011	15,635	141.83	2,398	17.56	18,033	159.39
2012	15,829	152.66	2,076	25.84	17,905	178.52
2013	16,031	156.58	2,602	24.69	18,633	181.27
2014	16,160	155.73	2,029	13.94	18,189	169.67

Note: Imports may be whole weight (ww) or product weight (dw); data are preliminary and subject to change.
Source: U.S. Census Bureau.

The amount of fresh and frozen albacore product imported from all ocean areas was greatest in 2004 (Table 5.22), and has remained relatively low compared to 2004 quantities. In 2004, albacore imports were valued at $14.8 million while in 2005 the value dropped to $5.3 million, and has remained relatively low. Import amounts and value have been fairly stable over the last several years, with a small uptick in 2011. Products in airtight containers (e.g., cans or foil pouches) are not included in these data.

Table 5.22 U.S. Imports of Albacore Tuna from All Ocean Areas Combined (2004-2014)

	Fresh		Frozen		Total for all Imports	
Year	Amount (mt)	Value ($ million)	Amount (mt)	Value ($ million)	Amount (mt)	Value ($ million)
2004	1,004	3.12	4,943	11.67	5,947	14.80
2005	706	2.38	1,016	2.96	1,722	5.34
2006	876	3.54	667	1.71	1,543	5.25
2007	945	3.86	718	1.98	1,664	5.86
2008	703	2.95	1,632	4.73	2,335	7.68
2009	718	3.07	1,493	3.46	2,211	6.53
2010	519	2.19	1,860	5.17	2,380	7.36
2011	669	3.05	3,794	7.17	4,462	10.22
2012	748	3.53	1,178	2.61	1,926	6.14
2013	858	3.57	2,199	4.27	3,057	7.84
2014	843	3.49	1,362	3.14	2,205	6.63

Note: Imports may be whole weight (ww) or product weight (dw); data are preliminary and subject to change.
Source: U.S. Census Bureau.

Skipjack tuna imports into the United States are comprised mainly of frozen product (Table 5.23). The amount of skipjack imports is variable over this time series, ranging from a low of 112 mt in 2004 to a high of 1,023 mt in 2006. Import value was the highest for 2012 ($1.21 million), which was the year with the second largest import amount (890 mt) for the time series. Products in airtight containers (e.g., cans or foil pouches) are not included in these data.

Table 5.23 U.S. Imports of Skipjack Tuna from All Ocean Areas Combined (2004–2014)

	Fresh		Frozen		Total for all Imports	
Year	Amount (mt)	Value ($ MM)	Amount (mt)	Value ($ MM)	Amount (mt)	Value ($ MM)
2004	<1	<0.01	110	0.26	112	0.27
2005	0	0	652	0.67	652	0.67
2006	140	0.14	883	0.84	1,023	0.98
2007	31	0.06	835	0.73	866	0.79
2008	14	0.02	685	0.77	699	0.79
2009	20	0.04	498	0.63	519	0.67
2010	36	0.09	542	0.79	578	0.87
2011	2	0.05	594	0.92	595	0.96
2012	23	0.05	866	1.16	890	1.21
2013	38	0.11	272	0.51	310	0.62
2014	70	0.13	395	0.62	465	0.75

Note: Imports may be whole weight (ww) or product weight (dw); data are preliminary and subject to change.
Source: U.S. Census Bureau.

Swordfish Imports

Table 5.24 indicates the amount and value of swordfish products imported by the United States from 2004 to 2014, as recorded by the U.S. Census Bureau, for all ocean areas combined. New import product categories were added in 2007. The amount of each product imported per year and annual totals for product and value are fairly consistent over the time series. Total imports have been fairly stable but fallen slightly since their peak in 2003.

Table 5.24 Imported Swordfish Products (2004-2014)

	Fresh (mt)				Frozen (mt)					Total for All Imports	
Year	Steaks			Other	Fillets	Steaks			Other	(mt)	($ million)
2004	157			6,568	3,261	387			351	10,726	70.95
2005	172			6,388	2,957	367			304	10,187	77.17
2006	77			6,830	2,875	351			201	10,334	75.63
							Meat				
	Fillets*	Steaks	Meat	Other	Fillets	Steaks	> 6.8 kg*	≤ 6.8 kg*	Other		
2007	174	84		5,412	2,520	171	118	737	205	9,422	70.85
2008	96	13		5,658	2,673	170	55	207	88	8,962	68.98
2009	53	10		5,312	1,632	112	96	23	33	7,272	55.85
2010	125	2		5,228	2,077	153	277	45	31	7,939	68.33
2011	74	1		5,060	2,116	139	1,384	471	12	9,258	68.64
2012	13	2	66	5,478	2,013	604	825	43	15	8,993	77.01
2013	31	2	62	6,011	1,394	457	182	4	12	8,093	71.38
2014	31	0	24	7,137	1,545	512	153	<1	32	9,442	81.99

* HTS classification changed as of 2007. NOTE: Imports may be whole weight (ww) or product weight (dw); data are preliminary and subject to change. Source: U.S. Census Bureau.

Table 5.25 summarizes swordfish import data collected by NMFS' Swordfish Statistical Document Program for the 2014 calendar year. According to these data, most swordfish imports were Pacific Ocean product from Central and South America. For Atlantic product, most North

Atlantic imports came from Canada, and South Atlantic product came from Brazil. CBP data located at the bottom of the table reflect a larger amount of imports than reported by the import monitoring program, and may be used by NMFS staff to follow up with importers, collect statistical documents that have not been submitted, and enforce dealer reporting requirements.

Table 5.25 U.S. Imports of Swordfish, by Flag of Harvesting Vessel and Area of Origin (2014)

Flag of Harvesting Vessel	Ocean Area of Origin							Total (mt dw)
	Atlantic (mt dw)	North Atlantic (mt dw)	South Atlantic (mt dw)	Pacific (mt dw)	Western Pacific (mt dw)	Indian (mt dw)	Not Provided (mt dw)	
Australia	-	-	-	27.79	251.54	-	17.49	296.82
Brazil	1.32	0.48	315.30	-	-	-	3.66	320.76
Canada	-	731.01	-	-	-	-	-	731.01
Chile	-	-	-	284.09	-	-	-	284.09
China	-	-	-	16.64	-	-	-	16.64
Costa Rica	-	-	-	712.22	-	-	0.19	712.41
Ecuador	-	-	-	2,220.50	-	2.93	3.50	2,226.93
Fiji Islands	-	-	-	7.85	15.57	-	1.03	24.45
French Polynesia	-	-	-	7.60	-	-	-	7.60
Indonesia	-	-	-	-	-	191.52	-	191.52
Marshall Islands	-	-	-	2.76	-	-	-	2.76
Mexico	-	-	-	447.29	-	-	35.09	482.38
New Zealand	-	-	-	-	254.44	-	-	254.44
Nicaragua	-	-	-	19.20	-	-	-	19.20
Not Provided	-	-	-	8.91	-	-	0.87	9.78
Panama	-	-	-	702.15	-	-	-	702.15
Portugal	-	-	1.45	-	-	-	-	1.45
Seychelles	-	-		-	-	2.46	-	2.46
South Africa	8.51	-	71.29	-	-	33.04	2.18	115.02
Spain	-	5.65	0.79	125.36	-	15.95	-	147.75
Sri Lanka	-	-	-	-	-	13.83	-	13.83
Trinidad & Tobago	-	12.29	-	-	-	-	-	12.29
Turks and Caicos Island	-	2.38	-	-	-	-	-	2.38
Vanuatu	-	-	-	513.69	-	-	-	513.69
Vietnam	-	-	-	254.20	-	-	-	254.20
Total Imports Reported by SDs	9.83	751.81	388.83	5,322.46	521.55	259.73	64.01	7,346.01
Total Imports Reported by U.S. Customs & Border Protection								9,719.79
Total Imports Not Reported by SDs								2,373.78

Source: NMFS Swordfish Statistical Document (SD) Program.

Shark Imports

Similar to HMS imports other than bluefin tuna, swordfish, and frozen bigeye tuna, NMFS does not require shark importers to collect and submit information regarding the ocean area of catch. Shark imports are also not categorized by species, and lack specific product information on imported shark meat such as the proportion of fillets and steaks. The condition of shark fin imports (e.g., wet, dried, or further processed products such as canned shark fin soup) is

also not collected. There is no longer a separate tariff code for shark leather, so its trade is not tracked by CBP or Census Bureau data.

Table 5.26 summarizes Census Bureau data on shark imports for 2004 through 2014. Imports of fresh and frozen shark have decreased significantly over the time series. Imports of shark fins have been variable between a range of 14 mt and 63 mt, but since 2011 imports have been greater than the time series average of 34.6 mt per year. As of July 2, 2008, shark fin importers, exporters, and re-exporters are required to be permitted under NMFS' HMS ITP regulations (73 FR 31380). Permitting of shark fin traders was implemented to assist in enforcement and monitoring trade of this valuable commodity.

Table 5.26 U.S. Imports of Shark Products from All Ocean Areas Combined (2004-2014)

	Shark Fins Dried		Non-specified Fresh Shark		Non-specified Frozen Shark		Total for All Imports	
Year	(mt)	($ million)	(mt)	($ million)	(mt)	($ million)	(mt)	($ million)
2004	14	0.34	650	1.00	156	2.35	821	3.70
2005	27	0.75	537	1.02	147	2.27	711	4.04
2006	28	1.38	338	0.68	93	1.35	459	3.41
2007	29	1.68	548	1.03	174	1.04	751	3.75
2008	29	1.74	348	0.72	189	1.88	566	4.34
2009	21	0.97	180	0.37	125	1.50	326	2.83
2010	34	1.18	114	0.33	34	1.16	182	2.66
2011	58	1.79	72	0.22	32	1.20	162	3.21
2012*	43	0.77	88	0.30	9	0.07	141	1.14
2013	63	0.74	153	0.46	3	0.05	219	1.25
2014	35	0.45	103	0.34	8	0.20	146	0.99

Note: Imports may be whole weight (ww) or product weight (dw); data are preliminary and subject to change. * In 2012, the product classification "shark fin, dried" in the HTS was renamed "shark fins." Source: U.S. Census Bureau.

5.3.3 The Use of Trade Data for Management Purposes

Trade data has been used in a number of ways to support the international management of HMS. When appropriate, the SCRS uses trade data on bluefin tuna, swordfish, bigeye tuna, and yellowfin tuna that are submitted to ICCAT as an indication of landings trends. These data can then be used to augment estimates of fishing mortality of these species, which improves scientific stock assessments. Trade data can also be used to assist in assessing compliance with ICCAT recommendations and identify those countries whose fishing practices diminish the effectiveness of ICCAT conservation and management measures. For examples of the use of trade data, please see this section of the 2011 HMS SAFE Report.

Table 5.27 Summary and Current Status of ICCAT-Recommended Trade Sanctions for Bluefin Tuna, Swordfish, and Bigeye Tuna Implemented by the United States

Country	Species	ICCAT-Recommended Sanction	U.S. Sanction Implemented	ICCAT Sanction Lifted	U.S. Sanction Lifted
Panama	Bluefin tuna	1996	1997	1999	2000
Honduras	Bluefin tuna	1996	1997	2001	2004
	Bigeye tuna	2000	2002	2002	2004
	Swordfish	1999	2000	2001	2004
Belize	Bluefin tuna	1996	1997	2002	2004
	Swordfish	1999	2000	2002	2004
	Bigeye tuna	2000	2002	2002	2004
Equatorial Guinea	Bluefin tuna	1999	2000	2004	2005
	Bigeye tuna	2000	2002	2004	2005
Cambodia	Bigeye tuna	2000	2002	2004	2005
St. Vincent & the Grenadines	Bigeye tuna	2000	2002	2002	2004
Bolivia	Bigeye tuna	2002	2004	2011	2012
Sierra Leone	Bluefin tuna	2002	2004	2004	2005
	Bigeye tuna	2002	2004	2004	2005
	Swordfish	2002	2004	2004	2005
Georgia	Bigeye tuna	2003	2004	2011	2012

5.4 Recreational Fisheries

HMS recreational fishing provides significant positive economic impacts to coastal communities that are derived from individual angler expenditures, recreational charters, tournaments, and the shoreside businesses that support those activities.

5.4.1 Recreational Angling

A report summarizing the results of the 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation was released in August 2012. This report, which is the 12th regarding a series of surveys that has been conducted about every 5 years since 1955, provides relevant information such as the number of anglers, expenditures by type of fishing activity, number of participants and days of participation by animal sought, and demographic characteristics of participants. The final national report and the data CD-ROM are available from the U.S. Fish and Wildlife Service (USFWS). More information on the 2011 national survey is available at http://www.fws.gov/pacific/news/news.cfm?id=2144375111.

In 2011, NMFS conducted the National Marine Recreational Fishing Expenditure Survey to collect national level data on trip and durable good expenditures related to marine recreational fishing, and estimate the associated economic impact (Lovell et al., 2013). Nationally, marine anglers were estimated to have spent $4.4 billion on trip related expenses (e.g., fuel, ice, and bait), and $19 billion on fishing equipment and durable goods (e.g., fishing rods, tackle, and boats). Using regional input-output models, these expenditures were estimated to have generated $56 billion in total economic impacts, and supported 364 thousand jobs in the United States in 2011.

This survey also included a separate survey of HMS Angling permit holders from the LPS region (Maine to Virginia) plus North Carolina (Hutt et al., 2014). Estimated trip-related expenditures and the resulting economic impacts for HMS recreational fishing trips are presented in Table 5.28. For the HMS Angler Expenditure Survey, randomly selected HMS Angling permit holders were surveyed every two months, and asked to provide data on the most recent fishing trip in which they targeted HMS. Anglers were asked to identify the primary HMS they targeted, and their expenditures related to the trip. Of the 2,068 HMS anglers that returned a survey, 1,001 anglers indicated they targeted a species of tuna (i.e., bluefin, yellowfin, bigeye, or albacore tuna) on their most recent private boat trip, or simply indicated they fished for tuna in general without identifying a specific species. Of the rest of those surveyed, 88 reported on trips targeting billfish (i.e., blue marlin, white marlin, sailfish), 105 reported on trips targeting shark (i.e., shortfin mako, thresher shark, blacktip shark), and 874 either reported on trips that did not target HMS or failed to indicate what species they targeted. Average trip expenditures ranged from $534/trip for tuna trips to $900 for billfish trips. Boat fuel was the largest trip-related expenditure for all HMS trips, and made up about 73 percent of trip costs for billfish trips, which is not unexpected given the predominance of trolling as a fishing method for billfish species such as marlin. Total trip-related expenditures for 2011 were estimated by expanding average trip-related expenditures by estimates of total directed boat trips per species group from the LPS and MRIP. Total expenditures were then divided among the appropriate economic sectors, and entered into an input-output model to estimate total economic output and employment supported by the expenditures within the study region (coastal states from Maine to North Carolina). Overall, $23.2 million of HMS angling trip-related expenditures generated approximately $31.3 million in economic output, and supported 216 full time jobs from Maine to North Carolina in 2011.

Table 5.28 HMS Recreational Fishing Trip Related Expenditures and Economic Impacts for Directed HMS Private Boat Trips (ME - NC, 2011)

Variable	Tuna Trips	Billfish Trips	Shark Trips	All HMS Trips
Sample size by species targeted	1,001	88	105	1,194
Average trip expenditures	$534	$900	$567	$587
Total directed HMS private boat trips *	27,648	5,123	6,669	39,440
Total trip-related expenditures	$14,775,000	$4,612,000	$3,781,000	$23,168,000
Total economic output	$19,864,000	$6,036,000	$5,443,000	$31,343,000
Employment (Full time job equivalents)	136	39	41	216

Sources: 2011 mail survey of Atlantic HMS Angling permit holders and *Large Pelagics Survey.

In addition to collecting data on HMS angling trip expenditures and economic impacts, the 2011 expenditure survey also collected data on HMS angler expenditures on durable goods used for marine angling (e.g., boats, vehicles, tackle, electronics, second homes). HMS anglers were found to spend $10,410 on average for durable goods and services related to marine recreational fishing, of which $5,516 could be attributed to HMS angling (based on their ratio of HMS trips to total marine angling trips). The largest expenditures items for marine angler durable goods among HMS anglers were for new boats ($3,178), boat storage ($1,258), and boat maintenance ($1,085). HMS anglers were estimated to have spent a total of $76 million on durable goods for HMS angling which in turn were estimated to generate $116 million in economic output, and support 727 jobs from Maine to North Carolina in 2011 (Hutt et al., 2014).

On May 9, 2014, NMFS announced that it would conduct a National Marine Recreational Fishing Expenditure Survey. The survey was conducted in two parts. The first part of the survey collected information on expenditures and durable goods from randomly selected anglers with saltwater fishing licenses in coastal states. The second part of the survey, focusing on trip-related expenditures, will be conducted in 2016. The 2014 expenditure included a targeted survey of approximately 1,200 Atlantic Highly Migratory Species (HMS) Angling permit holders. Such a targeted survey will provide expenditure data on a unique group of anglers that are typically under-represented in national surveys.

5.4.2 Atlantic HMS Tournaments

For detailed information about HMS tournaments, please see Sections 4.4.2 (landings) and 8.2 (HMS tournament characterization) of this document, the 2006 Consolidated HMS FMP, and the 2011 HMS SAFE Report.

5.4.3 Atlantic HMS Charter and Party Boat Operations

At the end of 2004 and 2012, NMFS collected market information regarding advertised charterboat rates. The analysis of this data focused on advertised rates for full day charters. Full day charters vary from 6 to 14 hours long with a typical trip being 10 hours. The average price for a full day boat charter was $1,053 in 2004 and $1,200 in 2012. Sutton et al., (1999) surveyed charterboats throughout Alabama, Mississippi, Louisiana, and Texas in 1998 and found the average charterboat base fee to be $762 for a full day trip. Holland et al. (1999) conducted a similar study on charterboats in Florida, Georgia, South Carolina, and North Carolina and found the average fee for full day trips to be $554, $562, $661, and $701, respectively. Comparing these two studies conducted in the late 1990s to the average advertised daily HMS charterboat rate in 2004 and 2012, it is apparent that there has been a significant increase in charterboat rates.

In 2013, NMFS executed a logbook study to collect cost and earnings data on charter and headboat trips targeting HMS throughout the entire Atlantic HMS region (Maine to Texas) (Hutt and Silva, 2015). The HMS Cost and Earning Survey commenced in July 2013, and ended in November 2013. Data from the survey indicate that 47 percent of HMS Charter/Headboat permit that responded to the survey did not plan to take for-hire trips to target HMS from July to November of 2013.

The HMS most commonly targeted by for-hire vessels varied by region and between charter and headboats (Table 5.29). Overall, the HMS most commonly targeted by charter boats were yellowfin tuna (45%), sailfish (37%), marlin (32%), and coastal sharks (32%). The reported percentages add to greater than 100% as most HMS for-hire trips targeted multiple species. This was especially true of trips targeting tuna or billfish species as the majority of these trips reported targeting at least two other species. The exception was HMS trips targeting coastal sharks with only 5% or fewer reporting targeting other species. Of the 19 headboat trips that reported targeting coastal sharks, none reported targeting any other species. The HMS most commonly targeted by headboats were yellowfin tuna (37%), bigeye tuna (45%), swordfish (34%), and coastal sharks (33%). In the North Atlantic region, the two HMS most commonly targeted by both charter and head boats were yellowfin tuna (57%, 100%) and bigeye tuna (48%, 100%). The third HMS most commonly targeted in the North Atlantic by charter boats were bluefin tuna (35%) which were not targeted on any reported headboat trips. HMS charters in the

South Atlantic were most likely to report targeting sailfish (56%), yellowfin tuna (44%), and marlins (40%). In the Gulf of Mexico, HMS charter and head boats were most likely to report targeting coastal sharks (64%, 48%), yellowfin tuna (35%, 53%), and marlins (23%, 30%).

Table 5.29 Percent of HMS Charter/Headboat Trips by Region and Target Species (2013)

	N. Atlantic		S. Atlantic		Gulf of Mexico		Overall	
Species	CH	HB	CH	HB	CH	HB	CH	HB
Bluefin tuna	35.0	0.0	3.0	-	0.0	3.0	9.0	2.0
Yellowfin tuna	57.0	100.0	44.0	-	35.0	53.0	45.0	67.0
Albacore tuna	14.0	89.0	6.0	-	0.0	0.0	7.0	28.0
Bigeye tuna	48.0	100.0	2.0	-	5.0	20.0	12.0	45.0
Skipjack tuna	3.0	0.0	10.0	-	2.0	0.0	7.0	0.0
Marlin	14.0	17.0	40.0	-	23.0	30.0	32.0	26.0
Swordfish	13.0	89.0	3.0	-	10.0	10.0	6.0	34.0
Sailfish	0.0	0.0	56.0	-	15.0	10.0	37.0	7.0
Pelagic sharks	27.0	6.0	0.0	-	0.0	8.0	5.0	7.0
Coastal sharks	7.0	0.0	30.0	-	64.0	48.0	32.0	33.0
Other species	11.0	83.0	40.0	-	14.0	13.0	30.0	34.0

North Atlantic includes: RI, MA, NH, and ME. Mid-Atlantic includes: CT, NY, NJ, DE, MD, and VA. South Atlantic includes: NC, SC, and GA. Gulf of Mexico includes: AL, MS, LA, and TX. Florida was reported separately as currently available data did not permit separating Atlantic and Gulf of Mexico trips. * Percentages exceed 100 percent as most trips targeted multiple species.

In the Northeast, the average net return per HMS charter boat trip was $969 (Table 5.30). Inflows from charter fees averaged $2,450 per trip. Northeast charter boat trips averaged $1,229 in material costs with their greatest material expenditures being for fuel ($966) and bait ($129). In the Southeast, the average net return per HMS charter boat trip was $534. Inflows from charter fees averaged $1,223 per trip. Southeast charter boat trips averaged $496 in material costs with their greatest material expenditures being for fuel ($376) and bait ($46). The lower costs and revenues reported for this region were likely due to the fact that only one over-night trip was reported in the Southeast for the survey. In the Gulf of Mexico, the average net return per HMS charter boat trip was $1,028. Inflows from charter fees averaged $2,111 per trip. Gulf of Mexico charter boat trips averaged $858 in material costs with their greatest material expenditures being for fuel ($631) and bait costs ($70).

Table 5.30 Average costs and revenues for HMS charter boat trips by region in 2013.

	Northeast Region (n = 95)	Southeast Region (n = 297)	Gulf of Mexico (n = 86)
	Maine to Virginia	North Carolina to east Florida	West Florida to Texas
Outflow			
Material costs	$1,228.62	$495.66	$857.56
Fuel costs	966.79	376.32	631.03
Fuel price	3.96	3.74	3.64
Gallons used	244.14	100.62	173.36
Bait costs	129.05	45.76	69.99
Tackle costs	61.01	37.74	58.22
Ice costs	56.28	13.52	42.95
Other costs	15.49	22.32	55.37
Payouts			
Captain	109.16	101.56	111.34
Crew	144.11	97.42	114.13
Inflow			
Total fare	2,450.40	1,223.02	2,111.44
Daily fare	1,791.67	1,201.55	1,422.19
Net return	968.51	528.38	1,028.41

In the Northeast, the LPS estimated that there were 4,936 charter trips from July to November, 2013, that targeted HMS. Extrapolating the average gross revenue per HMS trip in the Northeast resulted in an estimate of $12.1 million in gross revenue from July through November, 2013. Of that gross revenue, $7.3 million went towards covering trip expenditures (fuel, bait, ice, crew, etc.), and $4.8 million went to owner net return and other annual operation costs (Table 5.31). An input-output analysis in IMPLAN estimated that these expenditures generated $31.9 million in total economic output, $8.0 million in labor income, and 460 full and part-time jobs (Table 5.32).

In the Southeast, the MRIP estimated that there were 3,008 charter trips from July to November, 2013, that targeted HMS. Extrapolating the average gross revenue per HMS trip in the Southeast resulted in an estimate of $3.7 million in gross revenue from July through November, 2013. Of that gross revenue, $2.1 million went towards covering trip expenditures (fuel, bait, ice, crew, etc.), and $1.6 million went to owner net return and other annual operation costs (Table 5.31). Analysis in IMPLAN estimated that these expenditures generated $10.6 million in total economic output, $2.9 million in labor income, and 243 full and part-time jobs (Table 5.32).

In the Gulf of Mexico, excluding Texas, the MRIP estimated that there were 1,505 charter trips from July to November, 2013, that targeted HMS. Extrapolating the average gross revenue per HMS trip in the Gulf of Mexico resulted in an estimate of $3.2 million in gross revenue from July through November, 2013. Of that gross revenue, $1.6 million went towards covering trip expenditures (fuel, bait, ice, crew, etc.), and $1.5 million went to owner net return and other annual operation costs (Table 5.31). Analysis in IMPLAN estimated that these expenditures generated $8.8 million in total economic output, $2.2 million in labor income, and 428 full and part-time jobs (Table 5.32).

Table 5.31 Total Costs and Earnings for HMS Charter Boats by Region (July-November 2013)

		Northeast	Southeast	Gulf of Mexico[2]
Total HMS charter trips[1]		4,936	3,008	1,505
Inflow (gross revenue)		12,095,174	3,678,938	3,176,799
Outflow (expenses)	Fuel	4,772,097	1,131,996	949,426
	Bait	636,991	137,996	105,305
	Tackle	301,145	113,525	87,596
	Ice	277,798	40,669	64,621
	Other	76,459	67,140	83,308
	Hired captain	538,814	305,500	167,518
	Crew / mates	711,327	293,047	171,716
Owner net return plus fixed costs		4,780,544	1,589,411	1,547,309

[1]Charter boat trips that indicated HMS were their primary or secondary target species. Excludes head boat trips.
[2]The estimate of HMS for-fire trips in the Gulf of Mexico does not include trips originating from Texas, as the state does not participate in the MRIP survey.

Table 5.32 Estimated Total Expenditures and Economic Impacts Generated by Atlantic HMS Charter Boat Trip Operations by Region (July-November 2013)

		Economic Impacts		
Region	Total Expenses ($1,000)	Employment	Labor Income ($1,000)	Total Output ($1,000)
Northeast	$12,095	460	$8,011	$31,929
Southeast	$3,679	243	$2,848	$10,587
Gulf of Mexico	$3,177	428	$2,226	$8,847
Total	$18,951	1,131	$13,085	$51,363

This study estimated 1,131 jobs were generated as a result of HMS charter vessel operations during the study period (Table 5.32). This number is a conservative estimate, and does not include jobs created by additional travel expenditures generated by the HMS anglers that charter HMS for-hire vessels. Furthermore, most HMS for-hire vessels also take out trips targeting other species, and these trips were not included in this study's analysis, and are not reflected in the estimated employment figures.

5.5 Review of Regulations under Section 610 of the Regulatory Flexibility Act

The Regulatory Flexibility Act, 5 U.S.C. 601, requires that Federal agencies take into account how their regulations affect "small entities," including small businesses, small governmental jurisdictions and small organizations. In order to assess the continuing effect of an agency rule on small entities, The Regulatory Flexibility Act contains a provision in Section 610 that requires Federal agencies to review existing regulations on a periodic basis that had or will have a significant economic impact on a substantial number of small entities. Regulations must be reviewed within 10 years of the publication date of the final rule.

NMFS published the most recent plan for this required periodic review of regulations in the Federal Register in 2014 (79 FR 53151, September 8, 2014). This plan required review of rules issued during 2007 and 2008. The review of 2007 and 2008 rules was completed in the 2014 HMS SAFE Report. NMFS is currently revising its guidelines for review of rules for which a Final Regulatory Flexibility Analysis was prepared, and expects to release updated

guidelines in 2016. Since the guidelines are being revised, and since reviews have been completed through 2008, NMFS did not publish a plan for review of regulations in 2015.

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